Maternal stress and fetal supernumerary ribs

- *Mice* show a relationship between maternal stress and supernumerary ribs
- *rats* do not
- Supernumerary ribs are not the major skeletal variation caused by bromacil in rats

Data from Beyer and Chernoff (1986)

	Control	**12 hour food & water restriction**	**12 hour immobilization**
Extra ribs (% of litters)			
Mice	2.8	7.4	25.3*
Rats	0	0.43	0.43
Maternal weight gain (g)			
Mice	5.7	5.8	5.3
Rats	62.2	63.2	63.8

Data from Chernoff et al. (1990)

	Maternal survival	*Pregnancy weight gain*[1]	*SNR incidence*[1]
2,4,5-trichlorophenol	88	-8.3	.013
2,4-D	85	-14.1	.180*
EBIS	63	-71.8*	-.006
Styrene	100	-7.4	-.004
Toxaphene	50	-4.4	.173*
Cacodylic acid	100	1.6	-.005
Diquat	96	-4.4	.069

[1] expressed relative to vehicle control
*statistically different from control

Data from Chernoff et al. (1991)

	Control	Bromoxynil
Supernumerary ribs (% of litters)		
Mice	10	43**
Rats	9	56**
Maternal weight gain, net (g)		
Mice	4.8	5.4
Rats	32.2	32.8

Bromoxynil dose, mice 96.4 mg/kg/d, rats 15 mg/kg/d,gd 6-15; N/group , mice 14/15, rats 17/19.

Data from Alvarez (1988)

	Bromacil (mg/kg/d)				
	0	20	75	200	500
Number examined	330[1]	304	329	318	330
Vertebrae -missing	2	0	0	0	0
-extra	0	0	0	8	110
Ribs -callused	0	0	0	1	3
-rudimentary cervical	3	2	1	2	5
-rudimentary lumbar	4	8	4	18	34
-thickened	0	0	2	0	1
Sternebrae -misaligned	2	2	0	4	3
Ilium-unilateral caudal shift	0	0	0	1	14

[1]Number of fetuses affected

References

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